

## REMARKS

### I. Amendments

By this amendment, claims 1, 2, 5, 7, 16, 26, 27, 32 and 34 have been amended and claims 4, 6, 10, 31, 33 and 37 have been canceled.

Specifically, the Applicants have limited the ring formed by R<sup>1</sup> and R<sup>2</sup> to “1-piperidinyl”. This amendment is supported by page 9, line 15 of the specification as filed. Furthermore, the Applicants have limited E to “trimethylene” in the amended claims. This amendment is supported by the original claim 13; page 5, line 22 and Examples 1, 2-16 and 23-70, *inter alia*. In addition, the amendment of claim 16 is supported by page 37, lines 25-33 of the specification as filed. Accordingly, these amendments add no new matter to the specification.

Page 17 of the specification has also been amended. This amendment adds no new matter to the specification. This amendment is supported by page 5, lines 1 and 2 and Examples 45 and 49 of the specification and claim 8 as filed.

This amendment adds no new matter to the specification. Support for this amendment is found in the specification and claims as filed.

No change of inventorship is necessitated by this amendment.

## **II. Discussion of the Advisory Action**

In the Advisory Action dated April 19, 2004, only Applicants' arguments with respect to the rejection over Kato *et al.* and the rejection over Kim *et.al.* in view of Caldwell *et al.* were commented upon. Moreover, Applicants' amendments in their response dated February 20, 2004 were not entered.

Accordingly, the present amendment repeats the claim changes of the previous amendment. Entry is respectfully requested. New arguments for patentability over the cited art, and support for the claim of Applicants' claim of priority are also provided in the present amendment. Attached Appendix A (chemical structures) is also re-presented for the Examiner's consideration.

Applicants respectfully request the Examiner's careful consideration of each of the Sections III – XIII below.

### **III. Request for Clarification of the Status of the Pending Claims**

Applicants note that pending claims 5, 7-9, 11-13, 15, 40 and 41 were not listed as pending by the Examiner. However, these claims have neither been cancelled nor withdrawn. Furthermore, Applicants believe that these claims are in accordance with the restriction requirement, and thus should be presently examined. Clarification of the status of pending claims 5, 7-9, 11-13, 15, 40 and 41 is hereby requested.

#### **IV. Discussion of the Restriction Requirement**

A restriction requirement has been imposed on the pending claims.

By this amendment, R<sup>1</sup> and R<sup>2</sup> have been limited to forming in combination, together with an adjacent nitrogen atom, a 1-piperidinyl ring optionally having a substituent or substituents in independent claims 1, 26 and 27. In conjunction with these changes, dependent claims 5, 7, 32 and 34 have also been modified and claims 4, 6, 31 and 33 have been cancelled.

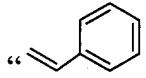
Therefore Applicants respectfully assert that the pending claims as amended are in accordance with the restriction requirement.

## V. Discussion of the Objections to the Specification

The specification has been objected to as allegedly containing new matter by virtue of the previous amendment to pages 9, 14 and 17. Applicants respectfully traverse this rejection. Explanation of the support for each of these previously-made amendments follows.

### *Objection to Previous Modification of Page 9*

As to the previous amendment of paragraph 4 on page 9, The Examiner has misunderstood the structure of compound of Example 25. The compound of Example 25 is “N-[3-(4-benzylidene-1-piperidinyl)propyl]-1-methyl-5-oxo-N-phenyl-3-pyrrolidinecarboxamide hydrochloride”. For the Examiner’s convenience, the structure of the compound of Example 25 is shown in attached Appendix A. The Examiner has stated that “the compound is N-benzylidene which corresponds to the R<sup>4</sup> group of the formula”. However, the benzylidene is *not* R<sup>4</sup>, but rather a substituent for piperidinyl ring formed by R<sup>1</sup> and R<sup>2</sup>. What is more, a structure represented by “N-benzylidene” is not present in the above-mentioned compounds. The Examiner further states that “benzylidene” is a “Ph=C-” group. However, the correct structure of benzylidene is =C-Ph (more precisely =HC-Ph), or



“=C-Ph”. Therefore, Applicants assert that the previous modification to paragraph 4 of page 9 added no new matter to the specification.

### *Objection to Previous Modification of Page 14*

As to the previous amendment of paragraph 1 on page 14, that amendment aimed at addition of R<sup>4</sup> of the compound of Example 94 into the detailed description of the invention, yet in making the objection, the Examiner erroneously cited the compound of Example 93. Thus, the Examiner is requested to consider the amendment in light of the compound of Example 94. Support for the previous amendment to paragraph 1, page 14 is found on page 5, lines 13 to 14, page 22, lines 3 to 10 and Example 94. For the Examiner’s convenience, the structures of compounds of Examples 93 and 94 are shown in attached Appendix A. Therefore, Applicants assert that the previous modification to paragraph 1 of page 14 added no new matter to the specification.

*Objection to Previous Modification of Page 17*

As to the previous amendment of paragraph 3 of page 17, that amendment aimed at addition of an embodiment where R<sup>3</sup> is “aryl optionally having substituent”, the substituent is “hydroxy group optionally having substituent” and the substituent of the hydroxy group is “alkyl substituted with halogen (Example 45) or phenyl (Example 49)” into the detailed description of the invention (as shown in attached Appendix A). However, in view of the Examiner’s objection, Applicants have amended that portion of page 17 again by this amendment.

Applicants assert that paragraph 3 of page 17 as amended does not introduce new matter into the specification. By this amendment, the previously objected to material was deleted, and an additional sentence (supported by page 5, lines 1 to 2 and Examples 45 and 49) was added.

Therefore, Applicants respectfully request withdrawal of the objections to the specification.

## **VI. Discussion of the 35 U.S.C. Sec. 112, Second Paragraph Rejection of Claim 1**

The rejection of claim 1 under 35 U.S.C. Sec. 112, second paragraph as allegedly vague in the recitation of “hydrocarbon group optionally having a substituent or substituents” has been maintained. Applicants respectfully traverse this rejection.

As an initial matter, Applicants would like once again to draw the Examiner’s attention to the fact that this phrase appears in the description of variables for R<sup>3</sup>, R<sup>4</sup>, E, Q and R; and that the phrase appears in independent claims 1, 26 and 27; though only claim 1 is subject to this rejection.

Applicants respectfully disagree with the Examiner’s conclusions regarding the previously-provided support for the phrase. The description on page 13, lines 6 to 34 (particularly page 13, line 15) that the Examiner refers to is not an explanation of “hydrocarbon group” but rather an explanation of the *substituents* which the hydrocarbon group may have. As defined in detail by the specification, hydrocarbon groups may have substituents which may be heterocyclic. Applicants find no ambiguity in this.

Moreover, the Examiner has examined and allowed patents including claims reciting hydrocarbon groups which are optionally substituted wherein the optional substituents may be heterocyclic. See U.S. Patent No. 6,548,674 for example.

Therefore Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 112, second paragraph rejection of claim 1.

## **VII. Discussion of the 35 U.S.C. Sec. 112, First Paragraph Rejection of Claim 16**

Claim 16 has been rejected under 35 U.S.C. Sec. 112, first paragraph as allegedly lacking enablement. Applicants respectfully traverse this rejection.

By this amendment, claim 16 has been modified to re-instate the word "pharmaceutical". In light of the teachings of the specification at page 37, lines 25-32, Applicants believe that their claim is adequately enabled.

Furthermore, the format of this claim is in accordance with the format for composition claims in other U.S. patents which the Examiner has examined and allowed. See for example U.S. Patent No. 6,610,711, claim 40.

Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 112, first paragraph rejection of claim 16.

## **VIII. Discussion of the 35 U.S.C. Sec. 112, First Paragraph Rejection of Claim 15**

Claim 15 has been rejected under 35 U.S.C. Sec. 112, first paragraph as allegedly not enabled as to the term “pro-drug”. Applicants respectfully traverse the rejection.

As an initial matter, Applicants would like to once again draw the Examiner’s attention to the fact that claims 16 and 25 also contain this term, though only claim 15 is currently under this rejection.

As stated before, Applicants have defined pro-drugs in the specification at page 26, lines 12-33. Therefore the term “pro-drug” is adequately enabled by the specification.

Furthermore, the format of this claim is in accordance with the format for claims which recite prodrugs in other U.S. patents which the Examiner has examined and allowed. See for example U.S. Patent Nos. 6,576,656 and 6,627,645.

Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 112, first paragraph rejection of claim 15.

## **IX. Discussion of the 35 U.S.C. Sec. 112, First Paragraph Rejection of Claim 28**

The rejection of claim 28 under 35 U.S.C. Sec. 112, first paragraph as allegedly not enabled has been maintained.

Claim 28 does not relate to a method for treating diseases but simply relates to a method for inhibiting CCR5 receptor activity. Accordingly, the effective amount for various cells can be determined easily according to a method analogous to the method of Experimental Example (simply using different cells) and the like, and those of ordinary skill in the art can practice the invention of claim 28 easily given the teachings of the specification. The amount to be administrated described on p. 37 is not limited to HIV.

Furthermore, the cited Cohen abstract speaks to cytokines in general, but does not indicate that suppression of CCR5 is highly unpredictable. Therefore Applicants do not believe that this reference supports the Examiner's point very well as applied to method claim 28.

Therefore Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 112, first paragraph rejection of claim 28.

## X. Discussion of the 35 U.S.C. Sec. 103(a) Rejection over Kato *et al.*

The rejection of claims 1-13, 15, 16 and 30-39 under 35 U.S.C. Sec. 103(a) as allegedly obvious over Kato *et al.*, WO 01/21577 has been maintained. Applicants respectfully traverse the rejection.

### *Non-Obviousness of Claims Dependent Upon Non-Rejected Claim 28*

As an initial matter, Applicants note that claim 28 is not subject to this rejection. Claims 32, 34-36, 38 and 39 depend upon claim 28. Only the dependencies of claims 32 and 34 were changed by this amendment. Since claim 28 is not subject to this rejection, Applicants do not understand why those claims dependent upon claim 28 (which ultimately depends upon claim 1) should be rejected.

### *Rejection is Moot as to Cancelled Claims*

Claims 3, 4, 6, 10, 30, 31, 33 and 37 have been cancelled. Applicants submit that the rejection is moot as to the cancelled claims.

### *Non-Obviousness of Claim 1*

By this amendment, independent claim 1 has been amended to recite that E is a trimethylene group. E was so defined in claim 13 as originally filed. In the cited reference, the compound in Example 202 has a naphthalenyl group on the right side of the molecule between the amide which is near the center of the molecule and the amine group at the end on the right side of the molecule. The naphthalenyl group of the cited art links two nitrogens, as does E in claim 1. However the two linking units are quite different, as that of the art is aromatic, while that of Applicants' presently claimed compounds is non-aromatic.

In other words, the Ar unit of the cited art's general formula I is lacking in Applicants' compounds of general formula (I). Thus, the art teaches an aromatic moiety in the same relative position that the Applicants' compounds have an acyclic moiety. Applicants do not believe that the compounds of the cited reference render the aspects of their invention as set forth in claim 1 as amended obvious, due to structural differences.

Claims 2, 5, 7-9, 11-13, 15, 16, 32, 34-36, 38 and 39 depend upon claim 1. Applicants submit that the more specific dependent claims are also non-obvious for the reason provided above.

Therefore Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 103(a) rejection over Kato *et al.*

## **XI. Discussion of the 35 U.S.C. Sec. 103(a) Rejection over Kim *et al.* in view of Caldwell *et al.***

The rejection of claims 1-13, 15-24, 26-28 and 30-39 under 35 U.S.C. Sec. 103(a) as allegedly obvious over Kim *et al.*, U.S. Patent No. 6,511,994 in view of Caldwell *et al.*, U.S. Patent No. 6,136,827 has been maintained. Applicants respectfully traverse the rejection.

### *Rejection is Moot as to Cancelled Claims*

Claims 3, 4, 6, 10, 30, 31, 33 and 37 have been cancelled.

### *Non-Obviousness of Claim 1*

The Examiner has specifically noted Example 42 as a relevant compound in Kim *et al.* In that compound, the amide nitrogen is unsubstituted and the portion near the center of the molecule is a phenyl-substituted trimethylene group. By contrast, the compounds set forth in claim 1 as amended have a substituted amide nitrogen ( $R^3$ ) and the portion near the center of the molecule (E) is an unsubstituted trimethylene group. In cols. 4 and 104 of the cited reference, compounds of general formula (I) are defined as having  $R^4$  as phenyl, naphthyl or heterocyclyl groups, meaning that the trimethylene group is always substituted.

The Examiner believes that since Caldwell *et al.* teach compounds having amide functionality wherein nitrogen may be substituted, one skilled in the art could combine the teachings of Kim *et al.* with the teachings of Caldwell *et al.*, to obtain the presently claimed compounds.

However, Applicants assert that were one skilled in the art to combine the teachings of the two references, the combined teaching of the cited references would actually *teach away* from the aspects of Applicants' invention set forth in independent claim 1 as amended. This is so because Applicants' E group is identified as a trimethylene group, whereas the cited art teaches that an equivalent linking group should have an aryl substituent.

More specifically, the Examiner has cited the numerous example compounds found in cols. 16 – 61 of Caldwell *et al.* in a previous Office Action. Yet none of the two hundred and fifty three compounds exemplified in that reference have an unsubstituted trimethylene group.

Moreover, in Kim *et al.*, none of the seventy-eight synthetic examples have an unsubstituted trimethylene group. So one skilled in the art reviewing these two references might well assume that substitution on the trimethylene group is essential. This would teach away from Applicants' invention as set forth in independent claim 1 as amended.

Claims 2, 5, 7-9, 11-13, 15, 16, 32, 34-36, 38 and 39 depend upon claim 1. Applicants submit that the more specific dependent claims are also non-obvious for the reason provided above.

#### *Non-Obviousness of Claim 26*

Claim 26 is an independent method claim directed to the production of compounds of general formula (I). By this amendment, claim 26 has been amended to recite that E is a trimethylene group. Applicants assert that the same reasoning described above with respect to independent claim 1 may also be applied to claim 26, rendering it also non-obvious in light of the combined teachings of the cited art.

#### *Non-Obviousness of Claim 27*

Claim 27 is an independent method claim directed to the production of compounds of general formula (I). By this amendment, claim 27 has been amended to recite that E is a trimethylene group. Applicants assert that the same reasoning described above with respect to independent claim 1 may also be applied to claim 27, rendering it also non-obvious in light of the combined teachings of the cited art.

Therefore Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 103(a) rejection over Kato *et al.*

## **XII. Discussion of the 35 U.S.C. Sec. 103(a) Rejection over Weber *et al.* in view of Chepkova *et al.* and Patani *et al.***

The rejection of claims 1-16 and 30-39 under 35 U.S.C. Sec. 103(a) as allegedly obvious over Weber *et al.*, U.S. Patent No. 4,891,378 in view of Chepkova *et al.*, Chem Abs. 1991:157055 and Patani *et al.* in Chem. Rev. 1996, 96, 3147-3176 has been maintained. Applicants respectfully traverse the rejection.

### *Non-Obviousness of Claims Dependent Upon Non-Rejected Claim 28*

As an initial matter, Applicants note that claims 32, 34, 36, 38 and 39 depend upon claim 28 (which ultimately depends upon claim 1). Yet since claim 28 is not subject to the present rejection, Applicants respectfully ask the Examiner to reconsider the appropriateness of the rejection of claims 32, 34, 36, 38 and 39.

### *Rejection is Moot as to Cancelled Claims*

Claims 3, 4, 6, 10, 30, 31, 33 and 37 have been cancelled.

### *Non-Obviousness of Independent Claim 1*

By this amendment, E has been limited to trimethylene in the pending claims. Support for this amendment is found in the original claim 13, p. 5, line 22 and Examples 1, 2 to 16, 23 to 70 and 72 to 100.

Applicants' compounds as recited in independent claim 1 as amended, wherein E is limited to trimethylene, cannot be easily envisaged by the skilled in the art from the combined teachings of Weber *et al.* in view of Chepkova *et al* and Patani *et al.*

Weber *et al* merely teaches compounds having a structure containing methylene (-CH<sub>2</sub>-) between -N(R<sub>2</sub>)- and the pyrrolidinone ring. Accordingly, the structure of the compound of the present invention as set forth in the claims as amended having trimethylene for E cannot be easily envisaged, even if one skilled in the art was to interchange -CH<sub>2</sub>- of the compound of Weber *et al* with C=O based on the chemical isostere taught in Chepkova *et al* and Patani *et al.* In addition, none of the cited references provide motivation to employ a structure wherein E is trimethylene.

The superior CCR5 binding inhibitory effect afforded by the structure of the compound of the present invention is not obvious to the skilled in the art from Weber *et al* in view of Chepkova *et al* and Patani *et al*.

Claims 2, 5, 7-9, 11-13, 15, and 16 depend upon claim 1. Applicants assert that the more specific dependent claims are also not rendered obvious by the combined teachings of the cited references for the reason provided above.

*Non-Obviousness of Independent Claim 14*

Moreover, Applicants submit that the five specific compounds and salts thereof recited in independent claim 14 are neither taught nor suggested by the combined teachings of the cited references. For the Examiner's convenience, Applicants have provided the structures of the compounds recited in claim 14 in attached Appendix A. Examples 23, 51, 76, 84 and 93 in the Appendix are the first through fifth compounds respectively in claim 14.

Therefore Applicants respectfully request withdrawal of the 35 U.S.C. Sec. 103(a) rejection over Weber *et al.* in view of Chepkova *et al.* and Patani *et al*.

### **XIII. Discussion of the Priority of Claims from the Parent Japanese Application**

The Examiner has denied Applicants' claim of priority, which was previously asserted in order to overcome some art-related rejections. By this amendment, Applicants have provided arguments which they believe prove the non-obviousness of the aspects of their invention set forth in the claims as amended. In addition to these arguments, Applicants still maintain that they are entitled to claim priority.

Support for the pending claims made be found as follows:

Claim 1: page 7, line 28 to page 8, line 18; page 12, lines 12 to 24; and page 22, lines 28 to 34 of the English translation of the priority document (hereinafter referred to as PD)

Claim 2: page 8, line 19 to page 9, line 4; and page 22, lines 28 to 34 of PD

Claim 9: Examples 1-22, 23, 24, 25-30, 31, 32, 37, etc. of PD

Claim 13: claim 3; and page 9, lines 5 to 9 of PD

Claim 15: claim 4; page 9, line 10; and page 26, line 17 to page 28, line 2 of PD

Claim 16: claim 5; page 9, lines 11 and 12; and page 36, lines 3 to 11 of PD

Claim 22: claim 11; page 9, lines 22 to 24; and page 37, lines 16 to 21 of PD

Claim 23: claim 12; page 9, lines 25 to 28; and page 36, line 31 to page 37, line 5 of PD

Claim 24: claim 13; page 9, lines 29 to 31; and page 37, lines 7 to 9 of PD

Claim 25: page 36, lines 3 to 11 of PD

Claim 26: claim 1; page 7, line 28 to page 8, line 18; page 10, lines 1 to 10; page 12, lines 12 to 24; page 22, lines 28 to 34; page 28, line 23 to page 32, line 5 of PD

Claim 27: claim 1; page 7, line 28 to page 8, line 18; page 10, lines 11 to 18; page 12, lines 12 to 24; page 22, lines 28 to 34; page 32, lines 6 to 30 of PD

Claim 28: page 36, lines 3 to 11; and page 37, lines 22 to 27 of PD

Claim 29: page 36, lines 3 to 11 of PD

Claim 36: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and the same portions of PD as those shown above for claim 9

Claim 40: page 36, lines 3 to 11; and page 37, lines 22 to 31 of PD

Claim 41: page 36, lines 3 to 11; and page 37, lines 22 to 31 of PD

Thus the subject matter of the above-identified claims was included in the original Japanese priority document, and priority is perfected with respect to these claims.

As to the remaining claims, the subject matter which was disclosed when the International Application was filed is indicated in bold, with accompanying description of the support. The non-bolded subject matter of the remaining claims was disclosed in the priority Japanese application. Each claim is presented on a separate sheet for clarity.

## **Claim 5**

The compound of claim 1, wherein the substituent of the 1-piperidinyl group is (1) phenyl-C<sub>1-4</sub> alkyl **optionally having halogen on a benzene ring**, (2) diphenylmethyl optionally having hydroxy, (3) benzoyl optionally having halogen on a benzene ring, (4) 2-phenylethen-1-yl, (5) phenyl optionally having halogen, (6) hydroxy, (7) phenoxy or (8) benzyloxy.

*[Support for the substituents of 1-piperidinyl group: page 12, line 25 to page 13, line 13, etc. of PD ; support for (1): Examples 1, 23, 28, 31-66 and 72-75 of PD; support for (2): Examples 9 and 30 of PD; support for (3): Examples 13, 17, 21, 22 and 24 of PD; support for (4): Example 25 of PD; support for (5): Examples 6, 14 and 67-70 of PD; support for (6) : Examples 14, 18, 67-70 of PD; support for (7): Example 26 of PD; and support for (8): Example 29 of PD. ]*

**{Support for (1) (added portion): Examples 83, 84, etc., of the specification as filed.}**

### **Claim 7**

The compound of claim 1, wherein the substituent of the 1-piperidinyl group is a benzyl group **optionally having halogen on a benzene ring**

*[Support: Examples 1, 23, 28, 31-66 and 72-75 of PD]*

*{Support for the added portion: Examples 83, 84, etc., of the specification as filed.}*

## **Claim 8**

The compound of claim 1, wherein R<sup>3</sup> is (1) a C<sub>1-6</sub> alkyl group, (2) a C<sub>3-8</sub> cycloalkyl group, (3) a benzyl group optionally having a hydroxy group, (4) a naphthylmethyl group, (5) a phenyl group optionally having, as a substituent, (a) C<sub>1-4</sub> alkyl optionally having halogen, (b) C<sub>1-4</sub> alkoxy optionally having halogen, (c) phenyl, (d) cyano, (e) benzyloxy or (f) a halogen atom, (6) a naphthyl group, (7) an indanyl group or (8) a tetrahydronaphthyl group.

[Support for R<sup>3</sup>: page 13, line 20 to page 22, line 19 of PD; support for (1):

Example 68 of PD; support for (2): Examples 69 and 70 of PD; support for (3):

Examples 62, 63 and 67 of PD; support for (4): Examples 64, 65 and 72 of PD;

support for (5)(unsubstituted): Examples 1-22, etc.; support for (5)(a): Examples

31, 43 and 44 of PD; support for (5)(b): Examples 34, 35, 36 and 45 of PD;

support for (5)(c): Example 47 of PD; support for (5)(e): Examples 48 and 49 of

PD; support for (5)(f): Examples 23, 24, 37, 38, etc. of PD; support for (6):

Example 46 of PD; and support for (7): Example 33, 66 of PD]

{Support for (5)(d) (added portion): Examples 98, 99 of the specification as filed; support for (8) (added portion): Example 88 of the specification as filed.}

### Claim 11

The compound of claim 1, wherein R<sup>4</sup> is (1) a hydrogen atom, (2) C<sub>1-6</sub> alkyl optionally having (a) halogen, (b) pyridyl, (c) morpholino, (d) furyl, (e) ethynyl or (f) C<sub>3-8</sub> cycloalkyl, (3) phenyl-C<sub>1-4</sub> alkyl optionally having (a) halogen, (b) C<sub>1-4</sub> alkyl, (c) halogeno-C<sub>1-4</sub> alkyl or (d) C<sub>1-4</sub> alkoxy on a benzene ring, or (4) C<sub>3-8</sub> cycloalkyl.

[Support for R<sup>4</sup>: page 22, lines 20 to 27 of PD; support for (1): Example 58 of PD; support for (2)(unsubstituted): Examples 1-50, 54, etc. of PD; support for (2)(b): Example 75 of PD; support for (2)(f): Example 73 of PD; support for (3)(unsubstituted): Examples 51, 55, 56, 59, etc. of PD; support for (3)(a); Example 74 of PD; support for (3)(d); Example 57 of PD; and support for (4): Example 53 of PD]

{Support for (2 )(a), (c), (d) and (e) (added portion): Examples 93, 80, 81 and 90 of the specification as filed; support for (3) (b) and (c) (added portion): Examples 82 and 94 of the specification as filed}

**Claim 12**

The compound of claim 1, wherein R<sup>4</sup> is **(a) C<sub>1-4</sub> alkyl group optionally having, as a substituent, halogen or furyl** or (b) a benzyl group optionally having halogen on a benzene ring.

*[Support: Examples 51, 59, 72 and 74 of PD]*

*{Support for (a) (added portion): Examples 81, 93, etc. of the specification as filed}*

**Claim 14**

A compound selected from the group consisting of *N*-[3-(4-benzyl-1-piperidinyl)propyl]-*N*-(3,4-dichlorophenyl)-1-methyl-5-oxo-3-pyrrolidinecarboxamide, 1-benzyl-*N*-[3-(4-benzyl-1-piperidinyl)propyl]-5-oxo-*N*-phenyl-3-pyrrolidinecarboxamide, **[1-(2-chlorobenzyl)-*N*-[3-(4-benzyl-1-piperidinyl)propyl]-5-oxo-*N*-phenyl-3-pyrrolidinecarboxamide, *N*-[3-[4-(4-fluorobenzyl)-1-piperidinyl]propyl]-*N*-(3,4-dichlorophenyl)-1-methyl-5-oxo-3-pyrrolidinecarboxamide and *N*-[3-(4-benzyl-1-piperidinyl)propyl]-5-oxo-*N*-phenyl-1-(2,2,2-trifluoroethyl)-3-pyrrolidinecarboxamide**, or a salt thereof.

*[Support: Examples 23 and 51 of PD]*

*{Support for the added portion: Examples 76, 84 and 93 of the specification as filed}*

**Claim 32**

The method of claim 28, wherein the substituent of the 1-piperidinyl group is (1) phenyl-C<sub>1-4</sub> alkyl **optionally having halogen on a benzene ring**, (2) diphenylmethyl optionally having hydroxy, (3) benzoyl optionally having halogen on a benzene ring, (4) 2-phenylethen-1-yl, (5) phenyl optionally having halogen, (6) hydroxy, (7) phenoxy or (8) benzyloxy.

*[Support: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and the same portions of PD as those shown above for claim 5]*

**{Support for the added portion is the same portion as shown above for  
claim 5}**

**Claim 34**

The method of claim 28, wherein the substituent of the 1-piperidinyl group is a benzyl group **optionally having halogen on a benzene ring.**

*[Support: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and  
the same portions of PD as those shown above for claim 7]*

**{Support for the added portion is the same portion as shown above  
for claim 7}**

### **Claim 35**

The method of claim 28, wherein R<sup>3</sup> is (1) a C<sub>1-6</sub> alkyl group, (2) a C<sub>3-8</sub> cycloalkyl group, (3) a benzyl group optionally having a hydroxy group, (4) a naphthylmethyl group, (5) a phenyl group optionally having, as a substituent, (a) C<sub>1-4</sub> alkyl optionally having halogen, (b) C<sub>1-4</sub> alkoxy optionally having halogen, (c) phenyl, (d) cyano, (e) benzyloxy or (f) a halogen atom, (6) a naphthyl group, (7) an indanyl group or (8) a tetrahydronaphthyl group.

*[Support: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and the same portions of PD as those shown above for claim 8]*

**{Support for the added portion are the same portions as those shown above for claim 8}**

### **Claim 38**

The method of claim 28, wherein R<sup>4</sup> is (1) a hydrogen atom, (2) C<sub>1-6</sub> alkyl optionally having **(a) halogen**, (b) pyridyl, **(c) morpholino, (d) furyl, (e) ethynyl** or (f) C<sub>3-8</sub> cycloalkyl, (3) phenyl-C<sub>1-4</sub> alkyl optionally having (a) halogen, **(b) C<sub>1-4</sub> alkyl, (c) halogeno-C<sub>1-4</sub> alkyl** or (d) C<sub>1-4</sub> alkoxy on a benzene ring, or (4) C<sub>3-8</sub> cycloalkyl.

*[Support: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and  
the same portions of PD as those shown above for claim 11]*

**{Support for the added portion are the same portions as those  
shown above for claim 11}**

**Claim 39**

The method of claim 28, wherein R<sup>4</sup> is **(a) C<sub>1-4</sub> alkyl group optionally having, as a substituent, halogen or furyl** or (b) a benzyl group optionally having halogen on a benzene ring.

*[Support: page 36, lines 3 to 11 and page 37, lines 22 to 27 of PD; and the same portions of PD as those shown above for claim 12]*

**{Support for the added portion are the same portions as those shown above for claim 12}**

Applicants respectfully request consideration of the foregoing information.

#### XIV. Conclusion

Reconsideration of the claims as amended and allowance of pending claims 1, 2, 5, 7-9, 11-16, 25-29, 32, 34-36 and 38-41 is requested.

Should the Examiner believe that a conference with Applicants' attorney would advance prosecution of this application, she is respectfully invited to call Applicants' attorney at the number below.

Respectfully submitted,

Dated: June 18, 2004

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Takeda Pharmaceuticals North America, Inc.  
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Lincolnshire, IL 60069 USA

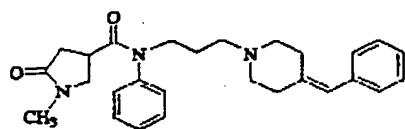
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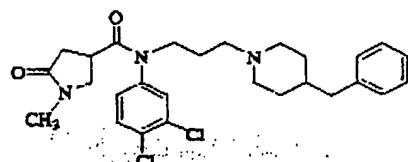
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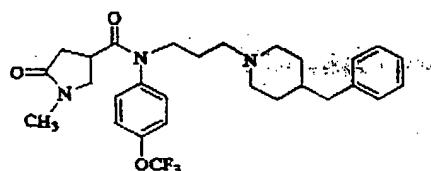
Chemical structures of the compounds of the present invention  
cited by the Applicants in the response to the final Office Action



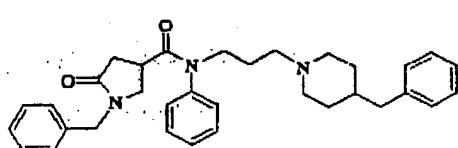
Example 25



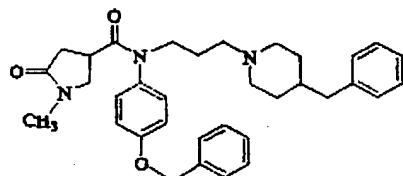
Example 23



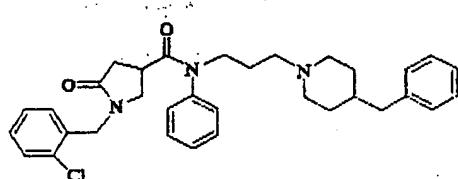
Example 45



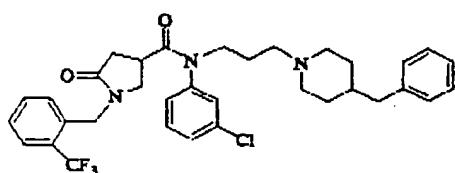
Example 51



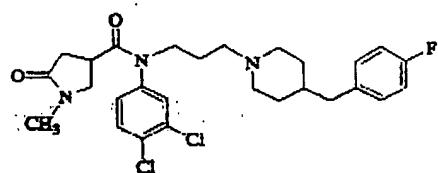
Example 49



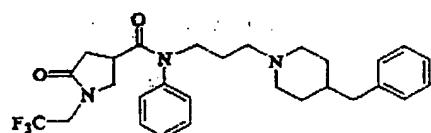
Example 76



Example 94



Example 84



Example 93